

## ***Increasing drivers' performance in container delivery to reduce labor cost***

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**Abstract** — *Waste Management Company (WM) in South Florida has a South Florida Container Shop site where drivers are dedicated to the delivery and collection of containers or equipment necessary for garbage collection or recycling, in addition to the repair of the equipment that the client has. With the increase of the population in Florida by 1.1% (estimated population of 22 million) by 2022 and a change on the payment system, from day rate to hourly rate, for the drivers the South Florida Container Shop facility has seen an increase to the site in the cost of labor of 11%. The factors that could be controlled and that would help improve efficiency were established, such as the process for generating the Tickets (case open to service given), the way in which the routes were created and how the performance of the drivers was measured and the care that was given to the trucks from a preventive maintenance. A work plan was established to create a Standard Operation Procedure (SOP) to assist in the creation of the tickets (Tks). This helped to create routes for the drivers with more service stops and less time driving. Staff was hired in the maintenance workshop to improve the PMs process and the loading and unloading process of the drivers was monitored more closely. In the end, efficiency could be improved, and the life of the equipment was increased by giving it better maintenance. All this helped to achieve an 11% reduction in the cost of work in the Operations department*

**Key Terms** — *Container Delivery, Day Rate compensation, Garbage Industry, Transportation*

### **INTRODUCTION**

The company Waste Management (WM) offers garbage collection and recycling service to many cities in South Florida: about 5.3 million customers in residential, 90K movements of open tops or containers and over 2.1 million yards of garbage and

recycling per month. In South Florida are the three counties with the most population in all of Florida, Palm Beach, Broward, and Miami-Dade [1]. Being a highly populated area, WM took the decision to separate the garbage collection and recycling services to the delivery and collection service of garbage containers, to have a more effective process and not duplicate labor cost in container services. This is where the South Florida Container Shop (WMSFC) comes in. A site that has 67 employees including welders, drivers, container repair technicians and compactors, mechanics, office workers and managers. The site is in the Everglades at US27. In the same facility is Reuter MRF, Reuter Transfer Station, and the new division of Transportation WMSFT.

Since South Florida Container Shop is a site dedicated to the delivery and/or collection and maintenance of the equipment that the client must deposit the garbage, it is important to understand how the site works from an operational perspective. The first thing is that a service ticket must be created. This can be created by anyone who has access to the MAS program (WM software). WM employees can create this ticket from any computer and anywhere. When this ticket enters the system there is a person in the dispatch who assigns this ticket to a driver. Depending on the description of the ticket, this person in the dispatch makes the decision to send a technician to repair the equipment or a driver to change it. It is in the same system that it is marked as completed or not completed. If the driver or technician does not complete the service, depending on the case, they will call the dispatch and explain the situation. The dispatch makes the decision to create another ticket, call the customer or simply cancel it. When the drivers return to the site, it is time for the maintenance department to focus on repairing the defects reported by the drivers or doing

preventive maintenance of the equipment for it to be ready for the next day.

In September 2021 WM changed the form of compensation of drivers, from day rate to hourly rate since it was more aligned with the policies of the corporation. The change of payment with the increase of the population in South Florida [1] increased the cost of labor of the site by more than 11%.

Within the problem of the increase of work in South Florida Container Shop there are two main variants: (1) population increase in South Florida (could not control) and (2) the one related with the drivers (can control), the work of this project would be concentrated in the second. The areas to be worked were established:

- Standard Operation Procedure (SOP)
- Performance Driver
- Preventive Maintenance (PM)

Establishing a Standard Operation Procedure (SOP) for the generation of work orders (Tkts) was important since there was no clear and consistent process in how the service ticket would be created in the different departments. This affected the performance of the driver since had cases that the tickets did not have complete or clear instructions of the service requested by the client or in the worst cases there the client's address was missing or incomplete, and a lot of time was lost in being able to find the client's property and offer the quality service for which the customer was paying. On the other hand, this did not allow to make an efficient route for the drivers. In addition, the work of the drivers was not being monitored and therefore the routes and their effectiveness were not being analyzed. Routes were observed where the driver had to return to the same place more than once because a key was needed to be able to access the client's container, but this information was not in the service ticket, and this increased the time driving and decreased the time in customer service.

It could be seen that the preventive maintenance process that the company has established for all its equipment was not being followed, since there was

equipment that had more than 30 days without PM, and this increases the probability that the equipment will be out of service.

The motivations for this project were the deficiency of providing a quality service and making the site financially profitable. Therefore, the objective established for this project was to reduce driver's hours (45 weekly) without affecting customer service and reduce the labor cost by \$9K.

## METHODOLOGY

This work was carried out from August 2022 to October 2022, although it is supplied with data from 2021 and 2022 to have enough information to monitor the progress of the project. First, the employees of the location were interviewed to understand the factors that were affecting the performance of the site. It was determined that most of the staff was concerned about the results and that they understood that a change had to be made.

Meetings were established with all the departments that were involved in the process of creating Tickets. These meetings were held weekly, and the purpose was to align all departments to the needs of the container shop. Initially these were difficult and senior managers had to be involved to relay the urgency and seriousness that was needed to be established to determine what would be the new process (SOP) of the creation of tickets. Minimum requirements were established for the creation of the ticket and completion time (from creation of tkt to service completion). This gave the opportunity to the dispatch of the container shop to have enough time to create more efficient routes and the driver did not waste time trying to understand the customer's needs in the tkt.

Routes are created the day before and are evaluated by the managers of the routes to determine efficiency. For this part a software called OCS is used. It allows to see where exactly the containers are located on the map, allowing to see the effectiveness of the route created. The only drawback that this software has is that it does not offer traffic and the route may seem to be correct by

location but not by time and traffic. Other applications were used for this, such as Google Maps. This is an area of opportunity, to have a smart enough software that can indicate where the containers are located and provide the current traffic, allowing the driver to make adjustment to the route during the day.

Clear expectations were established with the drivers, and they were provided with all the necessary tools to be more efficient when providing a service. Meetings were established with drivers who were underperforming to understand the reasons. Also, meetings were held with those who did a better job to learn their practices. Due to situations outside the normal process of the site, the driver's time driving had to be increased and the goals of reducing the work hours per driver had to be re-evaluated. This is due to a construction on US27 that will be taking more than a year. This negatively affected the driving time for more than 1 hr. It was evaluated to start the work shift before the usual time, but after evaluating the schedules of the clients of the open tickets it was observed that in more than 90% of them, they were going to be closed when the driver arrived at the client's property to provide the service. The goal was always to reduce drivers' hours, without affecting customer service.

More mechanics were recruited to have the workforce to be able to give quality preventive maintenance. The training process of these mechanics takes about 90 days, but due to the situation at the site, it was decided only to train them as PMs mechanics to increase the PMs per day and improve the metrics of the equipment and lower the downtime since the breaks of the equipment are caught before they happen.

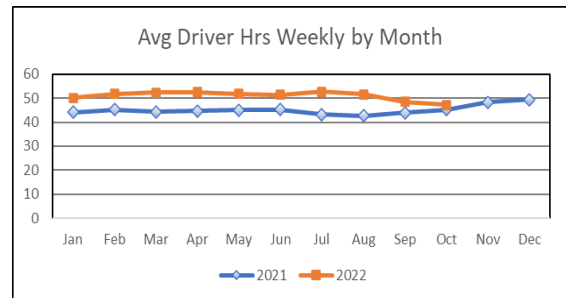
It was identified that parts of equipment's needed to be replaced and the suppliers did not have them. To solve this situation, priorities were established based on the equipment needed the most and used spare parts from other equipment not classified as a priority. This would increase the hours in the maintenance workshop but would help to continue to provide a quality service to the customers.

## CONCLUSION

The work focused on reducing the cost of the work by improving the performance of the drivers. The establishment of a SOP for all tickets that are generated in AS400 (MAS for WM) relieved the load of the other variants of the project.

A joint work that increased the efficiency of the driver in the shift and under idle time that was generated when the complete or correct information was not available in the tkt. Agreement between all departments to allow sufficient time for ticket completion helped establish efficient routes the day before. Agreement on sufficient time for ticket completion, which is, 2 days for emergency case (cannot service garbage collection or recycling service if the container is not changed or delivered) or new customer with the company and 5 days for all other cases. This change in the SOP directly helped the efficiency of the drivers by increasing the service per hour to 1.6 from 1.2 and decreasing driving time.

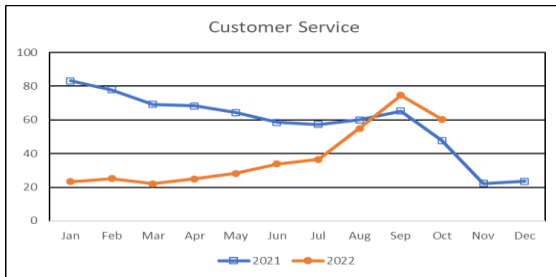
In the end it was not possible to reach the goal of 45 hours per driver in the week because the construction on US 27 increases the driver route on driver time by 1hr, but there was an improvement of 7.9% (48 hrs. per driver from 52.4). Figure 1 presents a comparison between 2021 and 2022. In this graph it is represented the increase of hours after November 2021 (when pay structure change took place from day rate to hourly rate). In 2022 it is observed that in the months of August and September and October there was a slight decrease of hours worked each week of those months.



**Figure 1**  
Average driver hours per week (2021 & 2022)

In the on-time service to customers there was a significant increase where it had 36.5% and for the

month of September it ended with 74.6%, as shown in Figure 2. Although during the last weeks there have been atmospheric events that have negatively affected, the passage of Hurricane Ian along the west coast of Florida. In the first place, the site had to be closed on Wednesday, October 28, 2022, and in second place two drivers were sent to Fort Myers to give support, in addition to one truck. There is still work to be done as the goal for customer service is 95% of tickets completed on time.



**Figure 2**  
Customer Service (2021 & 2022)

In addition, this allowed the equipment to be on time in the workshop to be able to give the preventive maintenance they need and that the company has it as a rule. Downtime metrics improved by 23% and equipment is being maintained on time in 92% of the time. This shows us that listening to the people who are working every day and that alliances can be established with the different departments helps to improve the performance of the entire site. At the end of the work, there were areas to explore to continue improving the performance of the drivers. It was observed that there were areas where more tickets were created and the reasons that came to light after this investigation were:

- The WM driver who offers the garbage or recycling service does not follow the steps to provide the service without damaging the containers. It was observed that some drivers after giving the service with the truck threw the containers damaging its parts and having a need to create a ticket to change the container or repair it.
- Client did not create the ideal conditions of the area where the container is located. Enclosures

were found with damaged floors, and this reduces the useful life of the container wheels, and a ticket must be generated for the repair of them.

- Customers deposit construction or flammable material inside the container. This decreases the useful life of it and a ticket must be created to solve the problem.

The beginning of the work was to improve the performance of the drivers and at the same time reduce the cost of labor by \$9K. It was possible to increase the performance of the drivers since they are working about 9.5 hours a day and serving about 15 customers, in addition it was possible to reduce the cost of labor in the drivers by \$8,112 per month. In the past, drivers had to work six days per week and now they work only 5 days per week and on average 48 hours a week. In the end, the equipment spends less time on the road and can be given preventive maintenance in the workshop, but the most important is that drivers have less time behind the wheel, and this helps prevent accidents on the road due to fatigue when driving [2].

## REFERENCES

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